REMARKS

Claims 1-40 are currently pending. Claims 1 and 30 have been amended.

The Examiner rejected claims 1, 3, 4, 6, 9-13, 24-26, 28-32, 34, and 37-40 under 35 U.S.C. §102(b) as being anticipated by Sikes et al. (U.S. Patent No. 6,058,201).

Amended claim 1 recites an image processing apparatus for use with a printed substrate. The image processing apparatus includes a first processor including a first image sensor that receives an acquired image from a printed substrate, and a second processor including a second image sensor that receives the same acquired image from the printed substrate. Both the first and the second processors are capable of processing the spectral information from the acquired image.

Sikes does not teach or suggest an image processing apparatus that includes, among other things, a first processor including a first image sensor, and a second processor including a second image sensor, wherein both the first and the second processors are capable of processing the spectral information from the acquired image. Rather, Sikes discloses an apparatus that includes a CPU 88 which receives information from a single CCD Matrix Sensor 30 through multiple signal conditioning means (A/D Converter 78, Pixel Data Memory Processor 70, etc.) and analyzes the information to determine if the CCD Matrix Sensor 30 is aligned to read the matrix images from the web 36. After the apparatus is aligned, it records reflective density data which is then processed by the CPU 88. During all operations the CPU 88 provides the main processing capability. *See column 7, lines 23-25.* The Examiner does not identify any particular device within Sikes that is analogous to the first processor or the second processor. Rather, the Examiner simply points to Figs. 1 and 2. As such, Applicants

respectfully request that the Examiner more clearly identify analogous components in any future correspondence.

In addition, Sikes discloses a single CCD matrix sensor 30 that captures an image for analysis. The image is divided into component colors and processed. However, there is no mention of employing two separate processors, each with a separate image sensor that receives the same acquired image from the printed substrate and is capable of processing the spectral information from the acquired image. As discussed, Sikes includes a single image sensor that captures an image. The image is then divided into component colors for analysis. As such, even if Sikes taught multiple processors, a contention Applicants disagree with, the processors would not process the same image as the captured image is divided and each image is filtered for a particular color.

In light of the foregoing, Sikes does not teach or suggest each and every limitation of claim 1. As such, claim 1 is allowable over Sikes. Claims 2-13 depend from claim 1 and are also allowable over Sikes.

With regard to claim 3, Applicants note that Sikes discusses a 3 CCD Matrix Sensor 30 that captures color images. *See col. 4, lines 43-52.* There is no discussion of a single black and white CCD sensor. The Examiner simply points to Fig. 1, numeral 30 in support of the rejection. However, Sikes clearly teaches that item 30 is a color CCD Matrix sensor.

As such, claim 3 is allowable over Sikes for these reasons as well as for those discussed above with regard to claim 1.

Claim 24 recites a method for monitoring the color of a printed substrate. The method includes acquiring an image from a printed substrate, providing the acquired image to a first processor, and providing the same acquired image to a second processor. Both the first

processor and the second processor are capable of processing spectral information from the acquired image.

Sikes does not teach or suggest a method that includes acquiring an image from a printed substrate, providing the acquired image to a first processor, and providing the same acquired image to a second processor. Rather, Sikes discloses a reflective density measuring and control system that employs a single 3 CCD matrix sensor to capture images of the printed substrate. The CCD matrix sensor 30 includes an internal means such as a prism to split the image into red, green, and blue components. *See col. 4, lines 42-47.* These three separated color images are then processed. Sikes also discloses a single CPU 88 that provides the main processing capability. *See column 7, lines 23-25.* Thus, Sikes discloses a single processor that receives all of the images. In addition, there are no two processors that receive the *same* image. Rather, the captured image is split into three different images (i.e., different color filters) before being sent to a processor.

In light of the foregoing, Sikes does not teach or suggest each and every limitation of claim 24. As such, claim 24 is allowable over Sikes. Claims 25-29 depend from claim 24 and are also allowable over Sikes.

Amended claim 30 recites an image processing apparatus for use with a printed substrate. The image processing apparatus includes a first processor including a first image sensor that receives at least a first portion of an acquired image from a printed substrate and a second processor including a second image sensor that receives at least a second portion of the acquired image from the printed substrate. Both the first and second processors are capable of processing the spectral information from the first and second portions of the acquired image, respectively.

Sikes does not teach or suggest, among other things, a first processor including a first image sensor that receives at least a first portion of an acquired image from a printed substrate and a second processor including a second image sensor that receives at least a second portion of the acquired image from the printed substrate. Rather, and as discussed above, Sikes discloses a system that includes a single 3 CCD matrix sensor 30 and a single CPU 88 that provides the main processing capability. Sikes does not teach or suggest, and the Examiner has not identified a component within Sikes that is analogous to a second processor that includes a second image sensor. Rather, the Examiner relies simply on Figs. 1 and 2, and the text of col. 6, lines 21-36 and col. 17, lines 24-36. However, Figs. 1 and 2 and the cited text do not provide support for two separate processors that each include separate image processors.

In light of the foregoing, Sikes does not teach or suggest each and every limitation of claim 30. As such, claim 30 is allowable over Sikes. Claims 31-37 depend from claim 30 and are also allowable over Sikes.

Claim 38 recites a method for monitoring the color of a printed substrate. The method includes acquiring an image from multiple color portions on a printed substrate, processing information generated from a first portion of the acquired image using a first processor, and processing information generated from a second portion of the acquired image using a second processor. The method also includes registering the second processor using information from the first processor and calibrating the first processor using information from the second processor.

Sikes does not teach or suggest, among other things, processing information generated from a first portion of the acquired image using a first processor, and processing information

generated from a second portion of the acquired image using a second processor. As discussed, Sikes discloses a single CPU 88 that provides the main processing capability. The Examiner attempts to support the teaching of these limitations by Sikes by pointing to Figs. 1 and 2. However, nothing in Figs. 1 or 2 would lead one of ordinary skill in the art to conclude that two separate processors are employed to process information from an acquired image.

Furthermore, Sikes does not teach or suggest registering the second processor using information from the first processor and calibrating the first processor using information from the second processor. As discussed, the Examiner has not identified any particular components that are thought to be analogous to the recited first processor and the second processor. Rather, the Examiner points to Fig. 12 and col. 26, lines 63-67 and col. 27, lines 1-20. However, the text and figure identified by the Examiner mentions only a single processor and makes no mention of registering the second processor using information from the first processor and calibrating the first processor using information from the second processor. Even if Sikes discloses multiple micro-processors, Sikes does not teach or suggest two different processors that each process information generated from a protion of the same acquired image.

In light of the foregoing, Sikes does not teach or suggest each and every limitation of claim 38. As such, claim 38 is allowable over Sikes. Claims 39-40 depend from claim 38 and are also allowable over Sikes.

The Examiner rejected claims 2, 5, 8, and 33 under 35 U.S.C. §103(a) as being unpatentable over Sikes in view of Juang (U. S. Patent No. 5,999,636).

Claims 2, 5, and 8 depend from claim 1 and add additional limitations. Claim 33 depends from claim 30 and adds additional limitations. As discussed with regard to the 35

U.S.C. §102(b) rejections, Sikes does not teach or suggest each and every limitation of claim 1 or claim 30, much less those of claims 2, 5, 8, and 33. Juang does not cure the deficiencies Sikes.

Juang is cited for a teaching of a small format sensor such as a line scan camera. However, Juang does not teach or suggest two sensors. The Examiner argues that it would be obvious to modify Sikes to use a small format sensor as suggested by Juang. However, both Juang and Sikes teach systems that employ a single sensor. As such, if the sensor of Sikes is replaced by the sensor of Juang, one still arrives at a device that includes a single sensor. There is no teaching or suggestion from within Sikes or Juang that would lead one of ordinary skill in the art to add the sensor of Juang to the device of Sikes, as Sikes and Juang both only require a single sensor. Thus, Juang teaches nothing more than that small format sensors exist.

In light of the foregoing, Sikes and Juang, alone or in combination do not teach or suggest each and every limitation of claim 1 or claim 30, much less those of claims 2, 5, 8, and 33. As such, claims 1, 2, 5, 8, 30, and 33 are allowable over Sikes and Juang.

The Examiner rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over Sikes in view of Hunter (U. S. Patent No. 6,630,995).

Claim 7 depends from claim 1 and adds additional limitations. As discussed with regard to the 35 U.S.C. §102(b) rejections, Sikes does not teach of suggest each and every limitation of claim 1, much less those of claim 7.

Hunter does not cure the deficiencies of Sikes. Hunter is cited by the Examiner for the teaching of the existence of fiber optic cables. However, Hunter does not teach or suggest, nor does the Examiner allege that Hunter teaches or suggests a first processor including a first

image sensor, and a second processor including a second image sensor, wherein both the first and the second processors are capable of processing the spectral information from the acquired image.

In light of the foregoing, Sikes and Hunter, alone or in combination do not teach or suggest each and every limitation of claim 1, much less those of claim 7. As such, claims 1 and 7 are allowable over Sikes and Hunter.

The Examiner rejected claims 14-19 and 21-23 under 35 U.S.C. §103(a) as being unpatentable over Sikes in view of Juang and Hunter.

Claim 14 recites an image processing apparatus for use with a printed substrate. The image processing apparatus includes a first processor including a large format sensor to process information from an image acquired from a printed substrate and a second processor including a small format sensor to process information from the same acquired image. A fiber optic bundle is positioned to receive the acquired image from the printed substrate and is operable to direct the acquired image to the second processor. Both the first processor and the second processor are operable to process the spectral information from the acquired image.

Sikes does not teach or suggest an image processing apparatus that includes, among other things, a first processor including a large format sensor to process information from an image acquired from a printed substrate and a second processor including a small format sensor to process information from the same acquired image. Rather, Sikes discloses a reflective density measuring and control system that employs a single 3 CCD matrix sensor 30 to capture images of a printed substrate. There is no teaching or suggestion of a second processor, much less a second processor that includes a small format sensor. Furthermore, there is no teaching or suggestion of a large format sensor and a small format sensor that

process information from the same acquired image. As such, Sikes does not teach or suggest each and every limitation of claim 14.

Juang does not cure the deficiencies of Sikes. Juang is cited for a teaching of a small format sensor. However, there is no teaching from within Sikes or Juang that would suggest the desire to employ two sensors, much less a large format sensor and a small format sensor. As such, even if one did apply the teachings of Juang to those of Sikes, a contention Applicants believe is unlikely, one would replace the large format sensor of Sikes with the small format sensor of Juang. There simply is no teaching or suggestion that would lead one to employ the two different sensors simultaneously. Furthermore, even if one did simply add the small format sensor of Juang to the device of Sikes, a contention Applicants disagree with, there is nothing within Sikes and Juang that would lead one of ordinary skill in the art to use the same acquired image with both sensors. Rather, one would position the small format sensor to capture its own image independent of the large format sensor. As such, Sikes and Juang, alone or in combination, do not teach or suggest each and every limitation of claim 14.

Hunter does not cure the deficiencies of Sikes and Juang. Rather, Hunter is cited for the teaching of the existence of fiber optic cables. However, Hunter teaches noting regarding image processing of a printed substrate.

In light of the foregoing, Sikes, Juang, and Hunter, alone or in combination do not teach or suggest each and every limitation of claim 14. As such, claim 14 is allowable over Sikes, Juang, and Hunter. Claims 15-19 and 21-23 depend from claim 14 and are also allowable over Sikes, Juang, and Hunter.

The Examiner rejected claim 20 under 35 U.S.C. §103(a) as being unpatentable over Sikes in view of Juang, Hunter, and Seymour (U.S. Patent No. 5,724,259).

Claim 20 depends from claim 14 and adds additional limitations. As discussed, Sikes, Juang, and Hunter, alone or in combination do not teach or suggest each and every limitation of claim 14, much less claim 20. Seymour does not cure the deficiencies of Sikes, Juang, and Hunter. Seymour discloses a system and method for monitoring color on a printing press that employs a single imaging device similar to the 3 CCD matrix sensor of Sikes. There is no teaching or suggestion of employing both a large format sensor and a small format sensor.

In light of the foregoing, Sikes, Juang, Hunter, and Seymour, alone or in combination do not teach or suggest each and every limitation of claim 14, much less claim 20. As such, claims 14 and 20 are allowable over Sikes, Juang, Hunter, and Seymour.

The Examiner rejected claims 27, 35, and 36 under 35 U.S.C. §103(a) as being unpatentable over Sikes in view of Seymour.

Claim 27 depends from claim 24 and adds additional limitations and claims 35 and 36 depend from claim 30 and add additional limitations. As discussed above, Sikes does not teach or suggest each and every limitation of claim 24 or claim 30, much less those of claims 27, 35, and 36. Seymour does not cure the deficiencies of Sikes. Seymour discloses a system and method for monitoring color on a printing press that employs a single imaging device similar to the 3 CCD matrix sensor of Sikes. There is no teaching or suggestion of providing the same acquired image to a first processor and a second processor wherein both the first and second processors are capable of processing spectral information as recited in claim 24. In addition, Seymour does not teach or suggest a first image processor that includes a first image sensor and a second processor that includes a second image sensor as recited in claim 30.

In light of the foregoing, Sikes and Seymour, alone or in combination do not teach or suggest each and every limitation of claim 24 or claim 30, much less claims 27, 35, or 36. As such, claims 24, 27, 30, 35, and 35 are allowable over Sikes and Seymour.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that claims 1-40 are allowable.

The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,

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